Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-29. (Canceled)

Claim 30. (Previously presented) A moisture controlled plant growing medium comprising a growing medium and a hydrophilic membrane comprising at least one layer of a polymer through which a water source comprising water is passed under ambient temperature conditions;

wherein said hydrophilic membrane is non-porous and allows the water to pass through the membrane and into a growing medium,

wherein said growing medium has a moisture content and said water is permitted to pass through the hydrophilic membrane at a rate that depends on the moisture content of the growing medium.

Claim 31. (Previously presented) The growing medium according to claim 30, wherein the at least one layer of a polymer is selected from a copolyetherester elastomer, a polyether-block-polyamide, a polyether urethane, a homopolymer of polyvinyl alcohol, a copolymer of polyvinyl alcohol, and mixtures thereof.

Claim 32. (Previously presented) The growing medium according to claim 31, wherein the hydrophilic polymer is a copolyetherester elastomer, or a mixture of two or more said copolyetherester elastomers,

wherein said copolyetherester elastomer comprises a multiplicity of recurring long-chain ester units and a multiplicity of recurring short chain ester units, said long-chain ester units and short-chain ester units being joined head-to-tail by ester linkages, wherein the long-chain ester units have the general formula

$$-OGO-\overset{O}{\overset{\|}{C}}-R-\overset{O}{\overset{\|}{C}}-$$

wherein:

a) G is a divalent radical remaining after terminal hydroxyl groups are removed from a poly(alkylene oxide)glycol having a number average molecular weight of about 400-4000;

b) R is a divalent radical remaining after carboxyl groups are removed from a dicarboxylic acid having a molecular weight less than 300;

wherein the short-chain ester units have the general formula

$$-ODO-\overset{O}{\overset{\|}{C}}-R-\overset{O}{\overset{\|}{C}}-$$

wherein:

a) D is a divalent radical remaining after hydroxyl groups are removed from a diol having a molecular weight less than about 250;

b) R is a divalent radical remaining after carboxyl groups are removed from a dicarboxylic acid having a molecular weight less than 300;

wherein the copolyetherester optionally contains from 0 to 68 wt.% ethylene oxide groups based on the total weight of the copolyetherester, said ethylene oxide groups being contained in the long-chain ester units; and

wherein the copolyetherester contains from about 25 to 80 wt.% of said short-chain ester units.

Claim 33. (Previously presented) The growing medium according to claim 32, wherein the copolyetherester elastomer having a film thickness of 25 microns has a water vapor transmission rate according to ASTM E96-95 (procedure BW) of at least 400 $g/m^2/24$hours, said water vapor transmission rate being measured at an air temperature of 23° C, relative humidity of 50% and an air velocity of 3 m/s.

Claim 34. (Previously presented) The growing medium according to claim 32, wherein the copolyetherester elastomer having a film thickness of 25 microns has a water vapor transmission rate according to ASTM E96-95 (procedure BW) of at least 3500 $g/m^2/24$hours, said water vapor transmission rate being measured at an air temperature of 23° C, relative humidity of 50% and an air velocity of 3 m/s.

Claim 35. (Previously presented) The growing medium according to claim 30, wherein said water source further comprises at least one of a suspended solid, a dissolved solid, a pollutant, a salt, and a biological material and said hydrophilic membrane prevents the at least one suspended solid, dissolved solid, pollutant, salt, and biological material from passing through the membrane.

Claim 36. (Previously presented) The growing medium according to claim 35, wherein the hydrophilic membrane allows the water to pass into the growing medium as a vapor.

Claim 37. (Previously presented) The growing medium according to claim 30, wherein the moisture content of the growing medium produces a moisture content gradient across the hydrophilic membrane.

Claim 38. (Previously presented) The growing medium according to claim 37, wherein the moisture content gradient is zero.

Claim 39. (Previously presented) The growing medium according to claim 30, wherein said growing medium is selected from sand, silt, clay, humus, vermiculite, perlite, peat moss, shredded tree fern trunks, chipped tree bark, shredded tree bark, shredded coconut husks, and mixtures thereof.

Claim 40. (Previously presented) The growing medium according to claim 30, wherein the hydrophilic membrane is completely covered by said growing medium.

Claim 41. (Previously presented) The growing medium according to claim 30, wherein said growing medium contains at least one plant seed or plant seedling having a root zone and said hydrophilic membrane is placed adjacent to said root zone.

Claim 42. (Previously presented) The growing medium according to claim 30, wherein said hydrophilic membrane is selected from a bag, a pipe and a tube.

Claim 43. (Previously presented) The growing medium according to claim 30, wherein said hydrophilic membrane further comprises at least one opening for filling the membrane with the water.

Claim 44. (Previously presented) The growing medium according to claim 30, wherein said hydrophilic membrane further comprises support material.

Claim 45. (Previously presented) The growing medium according to claim 44, wherein said support material is selected from woven paper, non-woven paper, bonded paper, fabric permeable to water vapor, and a screen permeable to water vapor.

Claim 46. (Previously presented) A process for providing moisture to a growing medium, comprising the steps of:

providing a water delivery apparatus comprising a hydrophilic membrane comprising at least one layer, wherein said hydrophilic membrane is non-porous;

placing the water delivery apparatus contiguous to a growing medium;

introducing a water source comprising water to the water delivery apparatus; and

transmitting the water from the water delivery apparatus through the hydrophilic membrane and into the growing medium, wherein said growing medium has a moisture content and said water is permitted to pass through the hydrophilic membrane at a rate that depends on the moisture content of the growing medium.

Claim 47. (Previously presented) The process according to claim 46, wherein said water source further comprises at least one of a suspended solid, a dissolved solid, a pollutant, a salt, and a biological material and said hydrophilic membrane prevents the at least one suspended solid, dissolved solid, pollutant, salt, and biological material from passing through the membrane.

Claim 48. (Previously presented) The process according to claim 47, wherein the hydrophilic membrane allows the water to pass into the growing medium as a vapor.

Claim 49. (Previously presented) The process according to claim 48, wherein the hydrophilic membrane has a differential transfer rate of vapor across, said hydrophilic membrane of at least $70g/m^2/24h$.

Claim 50. (Previously presented) The process according to claim 46, wherein the placing step comprises placing the water delivery apparatus within the growing medium.

Claim 51. (Previously presented) The process according to claim 46, wherein the moisture content of the growing medium produces a moisture content gradient across the hydrophilic membrane.

Claim 52. (Previously presented) The process according to claim 51, wherein the moisture content gradient is zero.

Claim 53. (Previously presented) The process according to claim 46, wherein the hydrophilic membrane is completely covered by the growing medium.

Claim 54. (Previously presented) The process according to claim 46, wherein the water delivery apparatus comprises a bag, a pipe, or a tube.

Claim 55. (Previously presented) The process according to claim 46, wherein the hydrophilic membrane further comprises a layer of support material

Claim 56. (Previously presented) The process according to claim 55, wherein the layer of support material is light blocking and covers the hydrophilic membrane.

Claim 57. (Previously presented) The process according to claim 55, wherein the support material is selected from woven paper, non-woven paper, bonded paper, fabric permeable to water vapor, and a screen permeable to water vapor

Claim 58. (Previously presented) The process according to claim 46, wherein the at least one layer of the hydrophilic membrane is a hydrophilic polymer selected from a copolyetherester elastomer, a polyether-block-polyamide, a polyether urethane, a homopolymer of polyvinyl alcohol, a copolymer of polyvinyl alcohol, and mixtures thereof.

Claim 59. (Previously presented) The process according to claim 58, wherein the hydrophilic polymer is a copolyetherester elastomer, or a mixture of two or more said copolyetherester elastomers,

wherein said copolyetherester elastomer comprises a multiplicity of recurring long-chain ester units and a multiplicity of recurring short chain ester units, said long-chain ester units and short-chain ester units being joined head-to-tail by ester linkages, wherein the long-chain ester units have the general formula

$$-OGO-\overset{\overset{\displaystyle O}{\|}}{C}-R-\overset{\overset{\displaystyle O}{\|}}{C}-$$

wherein:

a) G is a divalent radical remaining after terminal hydroxyl groups are removed from a poly(alkylene oxide)glycol having a number average molecular weight of about 400-4000;

b) R is a divalent radical remaining after carboxyl groups are removed from a dicarboxylic acid having a molecular weight less than 300;

wherein the short-chain ester units have the general formula

$$-ODO-\overset{\overset{\displaystyle O}{\|}}{C}-R-\overset{\overset{\displaystyle O}{\|}}{C}-$$

wherein:

a) D is a divalent radical remaining after hydroxyl groups are removed from a diol having a molecular weight less than about 250;

b) R is a divalent radical remaining after carboxyl groups are removed from a dicarboxylic acid having a molecular weight less than 300;

wherein the copolyetherester optionally contains from 0 to 68 wt.% ethylene oxide groups based on the total weight of the copolyetherester, said ethylene oxide groups being contained in the long-chain ester units; and

wherein the copolyetherester contains from about 25 to 80 wt.% of said short-chain ester units.

Claim 60. (Previously presented) The process according to claim 59, wherein the copolyetherester elastomer having a film thickness of 25 microns has a water vapor transmission rate according to ASTM E96-95 (procedure BW) of at least 400 $g/m^2/24$hours, said water vapor transmission rate being measured at an air temperature of 23° C, relative humidity of 50% and an air velocity of 3 m/s.

Claim 61. (Previously presented) The process according to claim 59, wherein the copolyetherester elastomer having a film thickness of 25 microns has a water vapor transmission rate according to ASTM E96-95 (procedure BW) of at least 3500 $g/m^2/24$hours, said water vapor transmission rate being measured at an air temperature of 23° C, relative humidity of 50% and an air velocity of 3 m/s.

Claim 62. (Previously presented) The process according to claim 46, wherein said growing medium is selected from sand, silt, clay, humus, vermiculite, perlite, peat moss, shredded tree fern trunks, chipped tree bark, shredded tree bark,

shredded coconut husks, and mixtures thereof.

Claim 63. (Previously presented) A process for germinating plant seeds and growing a seedling from such a germinated plant seed, comprising:

providing a water delivery apparatus comprising a hydrophilic membrane comprising at least one layer, wherein said hydrophilic membrane is non-porous, introducing a water source comprising water to the water delivery apparatus, providing a growing medium containing at least one plant seed or plant seedling; and

transmitting the water from the water delivery apparatus through the hydrophilic membrane and into the growing medium, wherein said growing medium has a moisture content and said water is permitted to pass through the hydrophilic membrane at a rate that depends on the moisture content of the growing medium.

Claim 64. (Previously presented) The process according to claim 63, wherein the hydrophilic membrane is a hydrophilic polymer selected from a copolyetherester elastomer, a polyether-block-polyamide, a polyether urethane, a homopolymer of polyvinyl alcohol, a copolymer of polyvinyl alcohol, and mixtures thereof.

Claim 65. (Previously presented) The process according to claim 64, wherein the hydrophilic polymer is a copolyetherester elastomer, or a mixture of two or more said copolyetherester elastomers,
wherein said copolyetherester elastomer comprises a multiplicity of recurring long-chain ester units and a multiplicity of recurring short chain ester units, said long-chain ester units and short-chain ester units being joined head-to-tail by ester linkages, wherein the long-chain ester units have the general formula

$$-OGO-\overset{\displaystyle O}{\overset{\|}{C}}-R-\overset{\displaystyle O}{\overset{\|}{C}}-$$

wherein:

a) G is a divalent radical remaining after terminal hydroxyl groups are removed from a poly(alkylene oxide)glycol having a number average molecular weight of about 400-4000;
b) R is a divalent radical remaining after carboxyl groups are removed from a dicarboxylic acid having a molecular weight less than 300;

wherein the short-chain ester units have the general formula

$$-\mathrm{ODO}-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-\mathrm{R}-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-$$

wherein:

a) D is a divalent radical remaining after hydroxyl groups are removed from a diol having a molecular weight less than about 250:
b) R is a divalent radical remaining after carboxyl groups are removed from a dicarboxylic acid having a molecular weight less than 300;

wherein the copolyetherester optionally contains from 0 to 68 wt.% ethylene oxide groups based on the total weight of the copolyetherester, said ethylene oxide groups being contained in the long-chain ester units; and

wherein the copolyetherester contains from about 25 to 80 wt.% of said short-chain ester units.

Claim 66. (Previously presented) The process according to claim 65, wherein the copolyetherester elastomer having a film thickness of 25 microns has a water

vapor transmission rate according to ASTM E96-95 (procedure BW) of at least 400 $g/m^2/24$hours, said water vapor transmission rate being measured at an air temperature of 23° C, relative humidity of 50% and an air velocity of 3 m/s.

Claim 67. (Previously presented) The process according to claim 65, wherein the copolyetherester elastomer having a film thickness of 25 microns has a water vapor transmission rate according to ASTM E96-95 (procedure BW) of at least 3500 $g/m^2/24$hours, said water vapor transmission rate being measured at an air temperature of 23° C, relative humidity of 50% and an air velocity of 3 m/s.

Claim 68. (Previously presented) The process according to claim 63, wherein said water source further comprises at least one of a suspended solid, a dissolved solid, a pollutant, a salt, and a biological material and said hydrophilic membrane prevents the at least one suspended solid, dissolved solid, pollutant, salt, and biological material from passing through the membrane.

Claim 69. (Previously presented) The process according to claim 68, wherein the hydrophilic membrane allows the water to pass into the growing medium as a vapor.

Claim 70. (Previously presented) The process according to claim 69, wherein said hydrophilic membrane has a differential transfer rate of vapor across said hydrophilic membrane of at least 70$g/m^2/24h$.

Claim 71. (Previously presented) The process according to claim 63, wherein the moisture content of the growing medium produces a moisture content gradient across the hydrophilic membrane.

Claim 72. (Previously presented) The process according to claim 71, wherein the moisture content gradient is zero.

Claim 73. (Previously presented) The process according to claim 63, wherein said growing medium is selected from sand, silt, clay, humus, vermiculite, perlite, peat moss, shredded tree fern trunks, chipped tree bark, shredded tree bark, shredded coconut husks, and mixtures thereof.

Claim 74. (Previously presented) The process according to claim 63, wherein the hydrophilic membrane is completely covered by the growing medium.

Claim 75. (Previously presented) The process according to claim 63, wherein said plant seed and said plant seedling have a root zone and said hydrophilic membrane is placed adjacent to said root zone.

Claim 76. (Previously presented) The process according to claim 63, wherein said water delivery apparatus comprises a bag, a pipe or a tube.

Claim 77. (Previously presented) The process according to claim 63, wherein said water delivery apparatus further comprises at least one opening for filling the apparatus with the water source.

Claim 78. (Previously presented) The process according to claim 63, wherein the hydrophilic membrane further comprises support material.

Claim 79. (Previously presented) The process according to claim 78, wherein the support material is selected from woven paper, non-woven paper, bonded paper, fabric permeable to water vapor, and a screen permeable to water vapor.

Claim 80. (Previously presented) A process for germinating plant seeds and growing a seedling from such a germinated plant seed, comprising:

providing a water source comprising water and at least one of a suspended solid, a dissolved solid, a pollutant, a salt and a biological material;

providing at least one plant seed or plant seedling, said plant seedling having roots,

providing a hydrophilic membrane comprising at least one layer, said hydrophilic membrane having a first surface and a second surface;

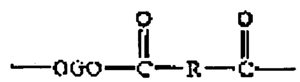
placing at least one plant seed, the roots of the plant seedling, or mixtures thereof in contact with the first surface of said hydrophilic membrane;

placing the water source in contact with the second surface of said hydrophilic membrane, wherein said hydrophilic membrane allows the water to pass from the second surface through the hydrophilic membrane to the first surface as water vapor, said hydrophilic membrane preventing the at least one suspended solid, dissolved solid, pollutant, salt, and biological material from passing through the hydrophilic membrane, wherein said hydrophilic membrane has a differential transfer rate of water vapor across said hydrophilic membrane of at least $70g/m^2/24h$.

Claim 81. (Previously presented) The process according to claim 80, wherein the hydrophilic membrane is a hydrophilic polymer selected from a copolyetherester elastomer, a polyether-block-polyamide, a polyether urethane, a homopolymer of polyvinyl alcohol, a copolymer of polyvinyl alcohol, and mixtures thereof.

Claim 82. (Previously presented) The process according to claim 81, wherein the hydrophilic polymer is a copolyetherester elastomer, or a mixture of two or more said copolyetherester elastomers, wherein said copolyetherester elastomer comprises a multiplicity of recurring long-chain ester units and a multiplicity of recurring short-chain ester units, said long-chain ester units and short-chain ester units being joined head-to-tail by ester linkages, wherein the long-chain ester

units have the general formula

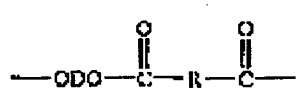


wherein:

a) G is a divalent radical remaining after terminal hydroxyl groups are removed from a poly(alkylene oxide)glycol having a number average molecular weight of about 400-4000;

b) R is a divalent radical remaining after carboxyl groups are removed from a dicarboxylic acid having a molecular weight less than 300;

wherein the short-chain ester units have the general formula



wherein:

a) D is a divalent radical remaining after hydroxyl groups are removed from a diol having a molecular weight less than about 250:

b) R is a divalent radical remaining after carboxyl groups are removed from a dicarboxylic acid having a molecular weight less than 300;

wherein the copolyetherester optionally contains from 0 to 68 wt.% ethylene oxide groups based on the total weight of the copolyetherester, said ethylene

oxide groups being contained in the long-chain ester units; and

wherein the copolyetherester contains from about 25 to 80 wt.% of said short-chain ester units.

Claim 83. (Previously presented) The process according to claim 82, wherein the copolyetherester elastomer having a film thickness of 25 microns has a water vapor transmission rate according to ASTM E96-95 (procedure BW) of at least 400 $g/m^2/24$hours, said water vapor transmission rate being measured at an air temperature of 23° C, relative humidity of 50% and an air velocity of 3 m/s.

Claim 84. (Previously presented) The process according to claim 82, wherein the copolyetherester elastomer having a film thickness of 25 microns has a water vapor transmission rate according to ASTM E96-95 (procedure BW) of at least 3500 $g/m^2/24$hours, said water vapor transmission rate being measured at an air temperature of 23° C, relative humidity of 50% and an air velocity of 3 m/s.

Claim 85. (Previously presented) A process for germinating plant seeds, comprising:

providing a water source containing water and at least one of a suspended solid, a dissolved solid, a pollutant, a salt and a biological material:

providing at least one plant seed;

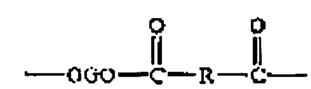
providing a hydrophilic membrane comprising one or more layers, wherein said at least one plant seed is encased in the hydrophilic membrane;

introducing the hydrophilic membrane to the water source, wherein said hydrophilic membrane prevents the at least one suspended solid, dissolved solid, pollutant, salt, and biological material from passing through the hydrophilic

membrane, said water being permitted to pass through the hydrophilic membrane as water vapor, wherein said hydrophilic membrane has a differential transfer rate of water vapor across the hydrophilic membrane of at least $70 g/m^2/24h$.

Claim 86. (Previously presented) The process according to claim 85, wherein the hydrophilic membrane is a hydrophilic polymer selected from a copolyetherester elastomer, a polyether-block-polyamide, a polyether urethane, a homopolymer of polyvinyl alcohol, a copolymer of polyvinyl alcohol, and mixtures thereof.

Claim 87. (Previously presented) The process according to claim 86, wherein the hydrophilic polymer is a copolyetherester elastomer, or a mixture of two or more said copolyetherester elastomers, wherein said copolyetherester elastomer comprises a multiplicity of recurring long-chain ester units, and a multiplicity of recurring short chain ester units, said long-chain ester units and short-chain ester units being joined head-to-tail by ester linkages, wherein the long-chain ester



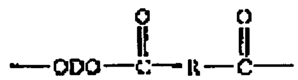
units have the general formula

wherein:

a) G is a divalent radical remaining after terminal hydroxyl groups are removed from a poly(alkylene oxide)glycol having a number average molecular weight of about 400-4000;

b) R is a divalent radical remaining after carboxyl groups are removed from a dicarboxylic acid having a molecular weight less than 300;

wherein the short-chain ester units have the general formula



wherein:

a) D is a divalent radical remaining after hydroxyl groups are removed from a diol having a molecular weight less than about 250;

b) R is a divalent radical remaining after carboxyl groups are removed from a dicarboxylic acid having a molecular weight less than 300;

wherein the copolyetherester optionally contains from 0 to 68 wt.% ethylene oxide groups based on the total weight of the copolyetherester, said ethylene oxide groups being contained in the long-chain ester units; and

wherein the copolyetherester contains from about 25 to 80 wt.% of said short-chain ester units.

Claim 88. (Previously presented) The process according to claim 87, wherein the copolyetherester elastomer having a film thickness of 25 microns has a water vapor transmission rate according to ASTM E96-95 (procedure BW) of at least 400 $g/m^2/24$hours, said water vapor transmission rate being measured at an air temperature of 23° C, relative humidity of 50% and an air velocity of 3 m/s.

Claim 89. (Previously presented) The process according to claim 87, wherein the copolyetherester elastomer having a film thickness of 25 microns has a water vapor transmission rate according to ASTM E98-95 (procedure BW) of at least 3500 $g/m^2/24$hours, said water vapor transmission rate being measured at an air temperature of 23° C, relative humidity of 50% and an air velocity of 3 m/s.